

THEMATIC PLAN
*of lectures of “Organic chemistry” for the 2nd Year students
of the **Pharmaceutical Faculty***

№	Theme of lecture	Hours
Part 3. Biologically important compounds bearing carbonyl group.		
Heterofunctional compounds.		
1	Aldehydes and ketones. Carboxylic acids and their functional derivatives. Derivatives of carbonic acid. Sulfonic acids.	2
2	Heterofunctional compounds.	2
Part 4. Heterocyclic compounds. Alkaloids.		
Natural biopolymers and bioregulators.		
3	5-Membered heterocycles with one and two heteroatoms. 6-Membered heterocycles with one and two heteroatoms 7-Membered heterocycles, fused heterocycles. Alkaloids. Nucleic acids.	2
4	Carbohydrates.	2
5	Proteinogenous aminoacids. Peptides. Proteins.	2
Total		10

Head of Pharmaceutical, Organic
& Bioorganic Chemistry Chair, prof.

R. Lesyk

CALENDAR AND THEMATIC PLAN
of practical works of “Organic chemistry” for the 2nd Year students
of the Pharmaceutical Faculty
 (Spring semester of 2020/2021 educational year)

№	Theme	Hours	Date
			Group 9
Issue 3. Biologically important compounds bearing carbonyl group. Heterofunctional compounds.			
1	Aldehydes and ketones.	4	13.01
2	Monocarboxylic acids.	4	20.01
3	Dicarboxylic acids. Methods of acylation.	4	27.01
4	Functional derivatives of carboxylic acids: soaps, twins, waxes. Derivatives of carbonic acid. Methods of acylation (continuation).	4	03.02
5	Halogeno-, hydroxy- and oxo-acids.	4	10.02
6	Aminoalcohols, aminophenols, aminoacids.	4	17.02
7	Derivatives of p-aminobenzoic and sulfanilic acids. Methods of sulfonation. Control work.	3	24.02
Issue 4. Heterocyclic compounds. Alkaloids. Natural biopolymers and bioregulators.			
8	5-Membered heterocycles.	4	03.03
9	6-Membered heterocycles.	4	10.03
10	7-Membered heterocycles, fused heterocycles.	4	17.03
11	Monosaccharides.	4	24.03
12	Di- and polysaccharides.	4	31.03
13	Proteinogenous aminoacids. Peptides. Proteins.	4	07.04
14	Nucleic acids.	3	14.04
15	Saponifiable lipids. Prostaglandins.	3	21.04
16	Nonsaponifiable lipids (terpenes, carotenoids, steroids). Control work.	3	28.04
Total		60	

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THEMATIC PLAN
of out-classes works of “Organic chemistry” for the 2-d Year students
of the Pharmaceutical Faculty
 (Spring semester of 2020/2021 educational year)

№	Theme	Hours
Part 3. Biologically important compounds bearing carbonyl group. Heterofunctional compounds.		
1	Aldol condensation, its analogy <i>in vivo</i> .	4
2	Decarboxylation reactions of carboxylic acids and their role <i>in vivo</i> .	4
3	Specific reactions of bifunctional carboxylic acids.	4
4	Drug bearing carbonylic, carboxylic groups, and heterofunctional compounds as a drugs.	4
5	Stereochemistry of hydroxy and amino acids.	4
Part 4. Heterocyclic compounds. Alkaloids. Natural biopolymers and bioregulators.		
1	Three-, four-, and seven-membered heterocycles.	3
2	Identification of key monocyclic and fused bicyclic heterocyclic system.	3
3	Pyridine-carboxylic acids based drugs.	3
4	Structure of heteropolysaccharides and their role.	3
5	Mentane and its derivatives: synthesis, structure, and practical usage.	3
6	Nucleic acids and their role in transmission of genetic information.	3
7	Phospholipids: structure, properties and biological role.	3
8	O-, and N-glycosides: spreading in nature and biological function.	2
9	Prostaglandins: classification and biological function.	2
	Total	44

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